

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of communicating information between heterogeneous systems, the method comprising:

providing a publisher/subscriber architecture interposed between a first network and a second network, and having a subscription manager for generating a subscription and acting as a proxy subscriber on the first network to receive first information over the first network relating to the subscription, for use by a specific entity communicating with the publisher/subscriber architecture over the second network;

using a subscription router to receive the first information;

using a first protocol translator associated with the subscription manager for translating the first information from a first protocol to a second protocol;

using the subscription router to access a table to determine which one of a plurality of different entities in communication with the publisher/subscriber architecture, and that have each previously provided a subscription request to the publisher/subscriber architecture, are to receive the first information;

using a publication manager of the publisher/subscriber architecture to accept a second information from the one or more of the plurality of different entities, and to act as a publisher of the second information for the one or more of the plurality of different entities to at least one remote entity;

using a second protocol translator associated with the publication manager for translating the second information from a third protocol to the second protocol;

for at least one of the publisher and subscriber operations, using the publisher/subscriber architecture to automatically register the one or more of the plurality of different entities to implement one of the publishing and subscription operations without a registration action by the one or more of the entities;

accepting a request for a changed subscription from the entity and changing the subscription, whereby dynamic subscription registration occurs; and

updating the table to reflect the changed subscription.

2. (Previously Presented) The method according to Claim 1, further comprising time division multiplexing information with the one or more of the entities.

3. (Original) The method according to Claim 1, further comprising fusing the first information and a third information and transmitting the fused information.

4. (Previously Presented) The method according to Claim 3, wherein the first information and the third information are transmitted at different rates.

5. (Cancelled)

6. (Currently Amended) The method according to Claim [[5]] 1, wherein the first protocol is a time division multiplexing (TDM) protocol and the second protocol is an Internet Protocol.

7. (Currently Amended) The method according to Claim [[5]] 1, further comprising using extensible markup language (XML) to translate between the first protocol and the second protocol.

8. (Original) The method according to Claim 1, further comprising validating the second information by comparing the protocol associated with the second information against an expected protocol for the second information.

9. (Currently Amended) The method according to Claim 8, wherein the validating further comprises using an XML schema definition (XSD) schema.

10. (Original) The method according to Claim 8, further comprising ignoring subsequent messages from the same source if the validation failed.

11. (Cancelled)

12. (Currently Amended) An agent, to be interposed between a first network and a second network, the agent comprising:

an interface to a specific entity, the specific entity interface including a first protocol for communicating with the specific entity over the first network; and

a network interface to a publisher/subscriber architecture on the second network, the publisher/subscriber architecture implemented via a processor, and including:

a publication manager, implemented at least in part by a hardware apparatus, that determines which one of a plurality of remote entities is to receive a first quantity of information that is received by the agent from the specific entity and published by the agent;

a first protocol translator associated with the publication manager for translating the first quantity of information from a first protocol to a second protocol when required;

a subscription manager, implemented at least in part by a hardware apparatus, that establishes at least one subscription for the specific entity to receive publications from at least a selected one of the plurality of remote entities;

a subscription router that receives the publications from the selected one of the remote entities;

a second protocol translator associated with the subscription manager for translating the publications from a third protocol to the second protocol when required;

a subscription and publication table that the subscription router accesses to hold subscription information pertaining to which ones of a plurality of different

entities are to receive subscription information from the subscription router, and to identify that the subscription information is to be transmitted to the specific entity; [[and]]

the subscription and publication table also holding publication information as to which one or more of said pluralities of remote entities said publications from said specific remote entity are to be published to; and

wherein the agent accepts a request for a changed subscription from the entity and changes the subscription, whereby dynamic subscription registration occurs;
and

wherein the table is updated to reflect the changed subscription.

13. (Cancelled)

14. (Currently Amended) The agent according to Claim 12, wherein at least one of the first and second translators is based on extensible markup language (XML).

15. (Original) The agent according to Claim 12, further comprising an information fuser wherein the fuser to fuse information from at least two sources, the sources being associated with at least one of the first network and the second network.

16. (Previously Presented) The agent according to Claim 15, wherein the information fuser being configured to accept information from the first and second sources at different rates.

17. (Previously Presented) The agent according to Claim 12, further comprising a registration manager to register the specific entity as at least one of a publisher and a subscriber.

18. (Previously Presented) The agent according to Claim 12, further comprising a validation manager to validate information received from the second network.

19. (Previously Presented) The agent according to Claim 18, wherein the validation manager is adapted to validate the information by comparing the protocol associated with the information received from the second network with an expected protocol for information received from the second network.

20. (Currently Amended) The agent according to Claim 19, further comprising an XML schema definition (XSD) schema used by the validation manager to validate the information received from the second network.

21. (Currently Amended) The agent according to Claim 12, wherein the specific entity interface is a time division multiplexing (TDM) interface.

22. (Previously Presented) The agent according to Claim 12, wherein the network interface includes an Internet interface.

23. (Previously Presented) The agent according to Claim 12, wherein the agent is implemented in at least one of hardware, firmware, and software.

24. (Currently Amended) A communications network, comprising
a first network having a first protocol;
a first specific entity configured to use the first protocol to communicate over the first network; and

an agent associated with the first network interposed between the first network and a second network including a publisher and subscriber architecture, the publisher and subscriber architecture being implemented via a processor, the agent adapted to:

operate as a publisher for the first specific entity for a first information to be transmitted by the first specific entity over the first network to the agent;

act as a first protocol translator associated with the publisher for translating the first information from a first protocol to a second protocol before transmitting the first information to the second network;

a subscriber for a second specific entity for a second information to be transmitted to the agent over the second network from one or more remotely located entities;

a second protocol translator associated with the subscriber for translating the second information from a third protocol to a second protocol, prior to transmitting the second information over the first network to the second specific entity;

the publisher and subscriber architecture adapted to access a subscription and publication table to determine which one or more of said plurality of remotely located

entities said first information published by said first specific entity is to be published to;
[[and]]

the publisher and subscriber architecture adapted to access the subscription and publication table to determine, from data stored therein, that the second specific entity is to receive the second information from a given one of said one or more remotely located entities;

accepting a request for a changed subscription from the entity and changing the subscription, whereby dynamic subscription registration occurs; and
updating the table to reflect the changed subscription.

25. (Original) The network according to Claim 24, further comprising:
a third network in communication with the second network and providing the second information.

26. (Original) The network according to Claim 24, further comprising:
a third network in communication with the second network and subscribing for the first information.

27. (Currently Amended) The network according to Claim 24, wherein the first protocol is a time division multiplexing (TDM) protocol.

28. (Currently Amended) The network according to Claim 27, wherein the first protocol is Tactical Digital Information Link (TADIL-J).

29. (Currently Amended) The network according to Claim 27, wherein the first protocol is variable frequency format (VMF).

30. (Cancelled)

31. (Currently Amended) The network according to Claim 24, wherein at least one of the first and second translators is based on extensible markup language (XML).

32. (Original) The network according to Claim 24, wherein the first network is associated with a mobile platform.

33. (Original) The network according to Claim 32, wherein the mobile platform is an aircraft.

34. (Currently Amended) The network according to Claim 24, the agent further comprising a validation manager to validate information received from the second network by comparing a protocol associated with the information received from the second network with an XML schema definition (XSD) schema.

35. (Original) The network according to Claim 24 wherein the first protocol is custom to the first network.